

Work Order ID: 108058

108058

Page 1

October-07-13 9:10:14 AM

Item ID: D412-711-101

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Vertical Reference Window

Start Date: 10/07/13 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 10/07/13 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 13-10-08

Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____

SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D412-711-101	B								
100		0.00							
100									
DC	Memo	0.00							
Document Control	Photocopy bluefiles and create labels for PPP D412-711-101 Change 002								
110		0.00							
110	HAND FINISHING THERMOFORMING								
HandThermo	Memo	0.00							
Hand Finishing Thermoforming	Set up Machine as per folio FTA 077 and D711W program using mould DT9640								
120		0.00							
120	HAND FINISHING THERMOFORMING								
HandThermo	Memo	0.00							
Hand Finishing Thermoforming	Cut Blanks to 37.5" by 43"								

SP

DAS
6
9-89

12

MLJ

st

x1

Wh

13/12/11

x1

Wh

13/12/11

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
☐ Bending	☐ Bend	☐ Grain
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear
☐ Cuffs	☐ Contamination	☐ Maintenance
☐ Heat Treat	☐ Countersink	☐ Misabeled
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread
☐ Ripples in Bend	☐ Drill Holes	☐ Offset
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration
☐ Turning Sequence	☐ Finish	☐ Out of Sequence
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions
		☐ Ovalized
		☐ Over/Under tolerance
		☐ Part Incorrect
		☐ Part Lost/Missing
		☐ Part Moved
		☐ Positioned Wrong
		☐ Power Loss/Surge
		☐ Pressure/Forced
		☐ Temperature/Cure
		☐ Weld
		☐ Wrong Stock Pulled
		☐ Other

Work Order ID 108058

October-07-13 9:10:14 AM

108058

Page 2

Item ID: D412-711-101

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Vertical Reference Window

Start Date: 10/07/13 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 10/07/13 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	THERMOFORMING MACHINE								
Thermoform	Memo	0.00				x1			Sh 13/12/11
Thermoforming Machine	Thermoform as per Dwg. D412-711-101 using DT 9640 and Folio FTA 077								
	Dwg. Rev. <u>B</u>								
	Folio Rev. <u>A.</u>								
	Visually inspect for proper formation and clarity								
	Visually and inspect magic eye								
	Verified by: <u>Sh</u>								
160		0.00							
160	HAND FINISHING THERMOFORMING								
HandThermo	Memo	0.00				x1			Sh 14/01/00
Hand Finishing Thermoforming	1) Trim off excess flange material 2) Buff out any light scratches or 3) Etch part number and batch number								

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Skid-tube ☐</td> <td style="width: 33%;">Crosstube ☐</td> <td style="width: 33%;">Water Jet ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> </tr> <tr> <td></td> <td></td> <td>Engineering ☐</td> </tr> <tr> <td></td> <td></td> <td>Quality ☐</td> </tr> <tr> <td></td> <td></td> <td>Other ☐</td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Large Fab ☐	Composite ☐	Supplier ☐			Engineering ☐			Quality ☐			Other ☐
Skid-tube ☐	Crosstube ☐	Water Jet ☐																					
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Large Fab ☐	Composite ☐	Supplier ☐																					
		Engineering ☐																					
		Quality ☐																					
		Other ☐																					

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
☐ Bending	☐ Bend	☐ Grain
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear
☐ Cuffs	☐ Contamination	☐ Maintenance
☐ Heat Treat	☐ Countersink	☐ Misabeled
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread
☐ Ripples in Bend	☐ Drill Holes	☐ Offset
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration
☐ Turning Sequence	☐ Finish	☐ Out of Sequence
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions
		☐ Ovalized
		☐ Over/Under tolerance
		☐ Part Incorrect
		☐ Part Lost/Missing
		☐ Part Moved
		☐ Positioned Wrong
		☐ Power Loss/Surge
		☐ Pressure/Forced
		☐ Temperature/Cure
		☐ Weld
		☐ Wrong Stock Pulled
		☐ Other

108058

October-07-13 9:10:14 AM

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 10/07/13 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 10/07/13 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

170 QC2- Inspect parts off machine FAI/FAIB

0.00

170

QC

Memo

0.00

Quality Control

1) Visually inspect for clarity, and proper formation.

180

QC5- Inspect part completeness to step on W/O	0.00
---	------

180

QC

Memo

0.00

Quality Control

1) Visually inspect for clarity, and proper formation.

185

QC4- 100% Inspect kits for completeness	0.00
---	------

185

QC

Memo

0.00

Quality Control

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:25%;">Skid-tube ☐</td> <td style="width:25%;">Crosstube ☐</td> <td style="width:25%;">Water Jet ☐</td> <td style="width:25%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric to O/S ☐ Cracks ☐ Crushed/Crimped ☐ Cuffs ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Ripples in Bend ☐ Torque Waves in Extrusion ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damaged ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drill Holes ☐ Drawing ☐ Finish ☐ Folio	☐ Grain ☐ Hardware ☐ Inspection Incomplete ☐ Instructions Incomplete/Unclear ☐ Maintenance ☐ Mislabeled ☐ Misread ☐ Offset ☐ Out of Calibration ☐ Out of Sequence ☐ Outside Dimensions ☐ Ovalized ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 108058

108058

Page 4

October-07-13 9:10:14 AM

Item ID: D412-711-101

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Vertical Reference Window

Start Date: 10/07/13 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 10/07/13 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start ***NR1***

QC: Date: SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Identify as per dwg & Stock Location: <u>090</u>	0.00							
190									
Packaging	Memo	0.00						DAS 6 9-89	14/1/10
Packaging									
200	QC21- Final Inspection - Work Order Release	0.00							
200									
QC	Memo	0.00							
Quality Control									

Handwritten: 14-10-01
14-01-10

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
☐ Bending	☐ Bend	☐ Grain
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☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear
☐ Cuffs	☐ Contamination	☐ Maintenance
☐ Heat Treat	☐ Countersink	☐ Mislabeled
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread
☐ Ripples in Bend	☐ Drill Holes	☐ Offset
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration
☐ Turning Sequence	☐ Finish	☐ Out of Sequence
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions
		☐ Ovalized
		☐ Over/Under tolerance
		☐ Part Incorrect
		☐ Part Lost/Missing
		☐ Part Moved
		☐ Positioned Wrong
		☐ Power Loss/Surge
		☐ Pressure/Forced
		☐ Temperature/Cure
		☐ Weld
		☐ Wrong Stock Pulled
		☐ Other

Picklist Print

October-07-13 9:10:14 AM

Page 1

Work Order ID: 108058

Parent Item: D412-711-101

Start Date: 10/07/13

Required Date: 10/07/13

Parent Item Name: Replacement Vertical Reference Window

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 06-02-01 JLM
10/06/28 DL

IPP Rev. B. Manufacture in-house

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MACRLICS.236 Plexiglass G .236"		Purchased	No				sf	308.8760		22			

Location

Loc Qty

Loc Code

therm

308.876

122537

12.65

124834

56.226

M125969

240

13/12/13

228 ft

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data ☐											
Equip/Tooling ☐											
Operator ☐											
Material ☐											
Setup ☐											
Other ☐											
Process ☐											
Supplier ☐											
Training ☐											
Unapproved ☐											

FAULT CATEGORY									
Landing Gear			General						
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced					
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure					
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld					
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled					
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	☐ Other					
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong						
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge						
☐ Ripples in Bend	☐ Drill Holes	☐ Offset							
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration							
☐ Turning Sequence	☐ Finish	☐ Out of Sequence							
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions							

DART AEROSPACE LTD		Work Order:	108058
Description: Replacement Window		Part Number:	D412-711-101
Inspection Dwg: D412-711-101		Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than <u>N/A</u> "				
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: Jh Date: 13/12/11

TRIMMING SECTION

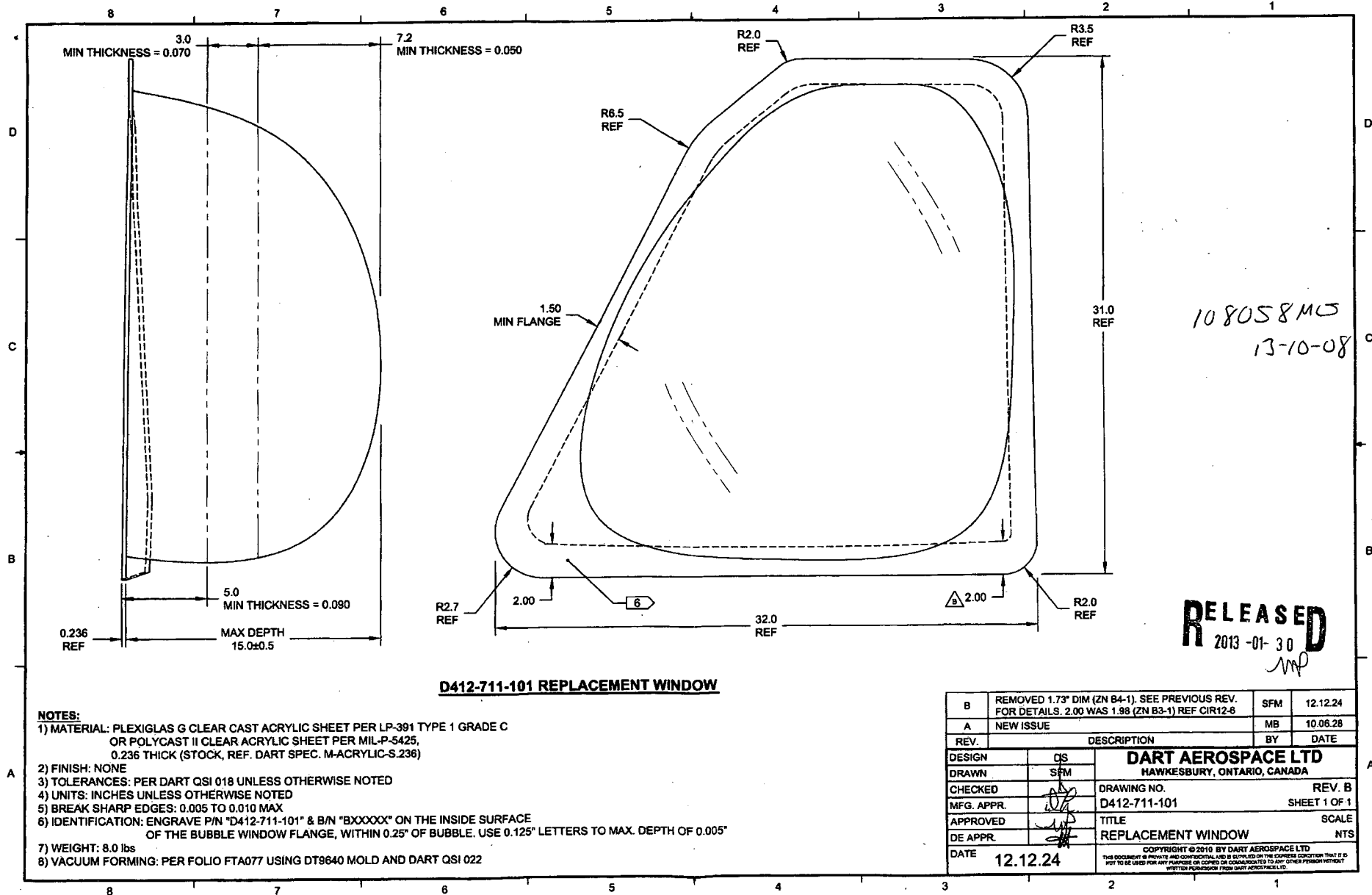
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.00	+/-0.030	2.00"	✓		Visual TH-01	
1.98 <u>N/A</u>	+/-0.030	—				
1.50	Min	1.57"	✓		"	
0.090	Min	0.104"	✓		"	
0.070	Min	0.089"	✓		"	
0.050	Min	0.072"	✓		"	
15.0	+/-0.5	15.125"	✓		TAPE TH-05	

Measured by: Jh Date: 14/01/00

Audited by: DAS 16 14/01/00 Date:

Preliminary Approval: 9-89 Date:

Rev	Date	Change	Revised by	Approved
B	10.10.08	New Issue	KJ	
C	13.06.03	Dimensions updated per Dwg Rev B	KJ	



Work Order ID: 108058

October-07-13 9:10:14 AM

108058

Page 1

Item ID: D412-711-101

Accept

N900040100

Setup Start *NS1*

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Cust Item ID:

Required Date: 10/07/13 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: *MLJ* Date: *13-10-08*

Tooling:

Date:

Run Start *NR1*

QC: Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D412-711-101	B
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100	0.00
-----	------

100

DC

Document Control

Memo

Photocopy bluefiles and create labels for PPP D412-711-101 Change 002

110	0.00
-----	------

110

HandThermo

Hand Finishing Thermoforming

HAND FINISHING THERMOFORMING

Memo

Set up Machine as per folio FTA 077 and D711W program using mould DT9640

120	0.00
-----	------

120

HandThermo

Hand Finishing Thermoforming

HAND FINISHING THERMOFORMING

Memo

Cut Blanks to 37.5" by 43"

MLJ 14-01-10

st

Wh
13/12/11

Wh
13/12/11